

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael Buchenhorner on May 14th 2010 and a subsequent interview on May 17th.

The application has been amended as follows:

IN THE SPECIFICATION:

The first full paragraph on page 5 should be replaced with the following:

Moreover, in order to solve the above-described problems of the IP multicast, an "applicant-level multicast" system has been proposed, which is described in the following documentations. Dimitrios Pendarakis, Sherlia Shi, Dinesh Verma, and Marcel Waldvogel. Almi: An application level multicast infrastructure. In Proceedings of the 3rd USENIX Symposium on Internet Technologies and Systems (USITS), pages 49-60, 2001; Y. Chu, S. Rao, and H. Zhang. A Case For End System Multicast. In Proc. ACM Sigmetrics, June 2000; P. Francis, "Yoid: extending the internet multicast architecture," preprint available from <http://www.isis.edu/div7/yoid/April2000>).

The first full paragraph on page 8 should be replaced with the following:

Meanwhile, Aramaki, et al. have proposed a construction of connecting the clients to an edge server (~~<http://www.akamai.com>~~). Fig. 33 schematically illustrates a system proposed by Aramaki, et al. The system illustrated in Fig. 33 uses the server 108 placed remotely through the network 100 and the edge server 100 placed near the clients 106. The network 100 between the remote server 108 and the edge server 110 is formed as a best-effort type network, where digital contents are transmitted so as to make full use Of a bandwidth thereof, and then the transmitted digital contents are once cached in the edge server 110. The cached digital contents are streamed anew from the edge server to the clients nearby, and thus the distribution of the digital contents to the clients is completed. Specifically, the method of Aramaki, et al. provides one solution to a method for restricting overlap of packets between the server 108 and the edge server 110 to avoid congestion of the network. However, the overhead of the edge server 110 is prone to be a subject even in the case of using the edge server 110, and it is necessary to reduce overlap of transmission packets also in the case of transmitting the packets from the edge server 110 to the respective clients.

IN THE CLAIMS:

Claims 22, 25, 30 and 32 recite the limitation "a client list of the clients constructing the wide area network group within the second network, each client receiving the packets referring to source packet distribution data or a list of pre-allocated copy destinations, which is received together with said packets;"

Amend to "a client list of the clients constructing the wide area network group within the second network, each client receiving ~~the~~ packets referring to source packet distribution data or a list of pre-allocated copy destinations, which is received together with said packets of a minimum unit for constructing digital contents;"

Claim 29. (Currently amended) A digital contents distribution system configured for distributing digital contents, the system comprising:

a server comprising a central processing unit, connected to a first network and configured for holding therein and transmitting the digital contents;

a first network and

a second network comprising a plurality of client groups connected to the first network through lines different in communication capacity, wherein each client group represents a wide area network; and

the plurality of client groups constructed by including clients constructing the second network connected to the first network and for constructing the wide area group for receiving and providing the digital contents wherein one of the clients in the second network is dynamically selected as an intermediate node for receiving a packet from the server and transmitting the received packet to other clients in the client group, and wherein the server is configured for dividing the held digital contents into a plurality of packets and transmitting packets of a minimum unit for constructing the digital contents to the intermediate node by dynamically allocating the packets without overlap, and wherein the intermediate node distributes copies of the packets of the minimum unit received from the server to all of the clients constructing the client group to which the intermediate node belongs, using an updatable list comprising:

client group identifiers for identifying which clients belong to which client group;
and

a client list of the clients constructing the wide area network group within the second network, each client receiving the packets referring to source packet distribution data or a list of pre-allocated copy destinations, which is received together with said packets of a minimum unit for constructing digital contents; and

wherein the packets of the minimum unit mean the minimum number of packets capable of reconstructing original digital contents without the overlap of the packets.

Claim 34. (Currently Amended) A non-transitory computer readable recording medium recording therein a program for controlling a computer as a server for holding therein and distributing digital contents, through a first network, to a wide area group including a plurality of groups connected through a second network,

wherein the program when executed causes the computer execute the steps of:
creating packets of a minimum unit by dividing the held digital contents into a plurality of packets;

selecting and registering therewith distribution destinations of the packets of the minimum unit in such a manner that identical packets of the minimum unit are not overlapped for a predetermined group, wherein the distribution destinations are selected from an updatable list of destinations comprising:

client group identifiers for identifying which clients belong to which client group,
wherein each client group represents a wide area network;

a client list of the clients constructing the wide area network group within the second network, each client receiving ~~the~~ packets referring to source packet distribution data or a list of pre-allocated copy destinations, which is received together with said packets of a minimum unit for constructing digital contents;

storing data of the selected distribution destinations as the packets of the minimum unit; and

reading and transmitting, for constructing the digital contents, the stored packets of the minimum unit to an intermediate node for distributing copies of the packets to the other clients of the selected distribution destinations in the group while dynamically allocating the read-out packets;

wherein the group is connected to the server through a second network connected to the first network through lines different in communication capacity.

Allowable Subject Matter

2. Claims 22-32 and 34 are allowed.

3. The following is an examiner's statement of reasons for allowance: The independent claims recite a system and method for distributing digital contents to a group of clients, these clients are identified by an updateable list, the contents are defined as packets that are a minimum unit required for reconstructing the digital contents, these minimum unit packets are transmitted to the clients in a group together with source packet distribution data or a list of pre-allocated copy destinations. It is this combination of features that renders the claims novel and non-obvious in view of the prior art. The art teaches media distribution to clients including a group of clients (Monteiro) and distributing to multiple networks (Patrick). However the features recited above in combination with the rest of the claim is not taught or suggested by the art. The dependent claims further define the invention and are thus allowable based upon their dependency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON RECEK whose telephone number is (571)270-1975. The examiner can normally be reached on Mon - Fri 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Philip Lee can be reached on (571) 272-3967. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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